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ABSTRACT

A study was conducted to identify family characteristics and media use patterns associated with subscription to various types of cable television services. Parent interviews, week-long television viewing diaries, and children's Peabody Picture Vocabulary test scores for 237 children, aged three or five years, were subjected to stepwise discriminant analysis. Families were divided into four groups on the basis of the cable services they received: no cable, basic cable, cable and one movie channel, or cable and two movie channels. The results of analysis indicated that the father's educational level was the single best discriminator of television services received. Fathers of families receiving basic cable had more education but lower occupational status than those of either no cable families or two movie channel families. The mothers in cable families were more likely to be employed than were those in non-cable families. The number of television sets in the home increased with the number of cable options, as did preschoolers' television viewing. The latter was most notable in basic cable and one movie channel families where higher levels of education would normally lead to lower amounts of viewing. Preschoolers in families with two movie channels had substantially lower Peabody vocabulary scores than those in any other group, independent of their parents' lower educational attainments. (HTH)

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Preschoolers who Get Cable TV: Family Patterns, Media Orientations, and Media Use[1]

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Abstract: Preschoolers who Get Cable TV:

Family Patterns, Media Orientations, and Television Use.

The ecology of preschoolers' television viewing is substantially affected by the television services available in the home. The services subscribed to, in turn, depend upon a number of family characteristics. In this study, demographic patterns and media-related behavior were identified that characterized the families who subscribed to the following types of cable television services: no cable, basic cable, one movie channel, and two movie channels (HBO and Cinemax). Parent interviews, Peabody Picture Vocabulary test scores of the children, and a one-week diary of television viewing were collected for 320 3- and 5-year-olds, as part of a longitudinal study. Cable services had been available less than one year, and 64% of the families subscribed. In a stepwise discriminant analysis, six variables contributed independently to discrimination among families with different levels of cable service in their homes. Families with basic cable had higher father education, but lower father occupational status than either no-cable families or two-movie families. In cable families, the mother was more likely to be employed than in no-cable families. The number of TV sets in the home increased with the number of cable options, as did preschoolers' television viewing. The latter was most notable in basic-cable and one-movie families where higher levels of education would normally lead to lower amounts of viewing. Preschoolers in two-movie families had substantially lower Peabody vocabulary scores than those in any other group, independently of their parents' (lower) educational attainments. Continuing research will address differences in the form and content of broadcast and cable-only programming, cable-related changes in family coviewing patterns, and the longitudinal consequences of cable services for children's television literacy, and for their intellectual and social development.

Preschoolers Who Get Cable TV:

Family Patterns, Media Orientations, and Television Use.

The rapid expansion of cable and other paid television services represents one of the most significant changes in the medium since broadcast television first became widespread in the 1950's. Subscribership has grown from 11 million in 1977 to approximately 28 million in mid-1983. In 1983, thirty-four percent of all U. S. households received some cable services, and about 250,000 more were being wired each month (Kahn, 1983). The purpose of the study reported here was to investigate some of the factors which influence families of young children to subscribe to cable, and some of the ways cable may affect preschoolers' television use.

In the Federal Communications Commission's (1979) report on children's television, cable services were proposed as a potential "free market" solution to the current paucity of quality children's programming on broadcast television. The Commission argued that increased channel capacity makes it possible to tailor programming for specific audiences, such as children. Contrary to the Commission's own 1974 policy statement, the Chairman recently stated that the Commission should not involve itself in promoting programming for children (Broadcasting, Feb., 1983). Children constitute one of television's heaviest user groups (Comstock, Chaffee, Katzman, McCombs, & Roberts, 1978), but they have virtually no power over the programming choices available to them, and they apparently cannot depend upon governmental agencies to insure access to quality programming produced specifically for them. Most cable systems now provide at least one channel, such as Disney or Nikelodeon, that is dedicated to children's programming -- for those children whose families are willing to pay.

Subscription television services have only recently become available in many parts of the country. Industrial figures indicate that where cable is available, 59% of the households subscribe, and 53% of the subscribers pay for some additional services (Cablevision, Nov., 1982). Now is an optimal time to assess dissemination patterns for the new distribution medium, and to examine its relationship to family characteristics and young children's development.

The few available studies on cable subscription have focussed almost exclusively on adults, and have been limited to the dichotomous decision as to whether to subscribe to any cable services or to none (Grotta & Newsom, 1982; Agostino, 1980; Kaplan, 1978; Jefferies, 1978a, b). Agostino (1980) reported that cable subscribers use more channels, watch more television in general, and are more likely to have children than those who do not subscribe. Grotta and Newsom (1982) also found that adults in families with cable not only watched more television, but were also more likely read newspapers and use other print media than those is non-cable homes. It seems likely that these differences are partly due to the fact that cable subscribers are above average in income and education.

A major purpose of the present study is to identify family characteristics and media use patterns associated with subscription to various types of cable service, rather than merely distinguishing between those who do and do not subscribe. In the community studied, families without cable or satellite antenna could receive two network stations and one public televison station; reception of those channels was poor in many parts of the city. The basic cable service provided good reception for local channels and access to several additional network, public, independent, and specialized cable channels. A second type of cable service

was two separately paid movie channels: HBO and Cinemax. Families could subscribe to one of these channels (almost always HBO) or to both. Pay movie channels introduce a different type of content into the home than is available on other channels, whether broadcast or cable specific. Network restrictions on violence, language, nudity, and sex do not apply. The decision to subscribe to these channels may reflect parents' values about such content, and it may introduce more frequent occasions on which parents feel a need to restrict or monitor their children's viewing.

The present study differs from earlier invesitgations in a second way: it is focused on children, rather than adults. One effect of cable availability on children may be increased viewing. The finding that adults with cable service also use print media extensively may not occur for children. For grade school children, many studies have indicated that television viewing is negatively associated with the development of reading and verbal skills (Hornik, 1979; Morgan and Gross, 1982). In the present study children's verbal skills and their interest in print media were assessed, as well as the amount of television they viewed, in order to examine the relation of cable services to these variables.

The results reported here are based on the first wave of data collected as part of a longitudinal study of the influences of early television viewing on preschoolers' intellectual and social development. Cable services in the community studied had become available less than a year before these data were collected. Demographic characteristics of the parents, children's media orientations, television use, family viewing rules, the prominence of television-inspired content in the child's daily conversation and play, and the child's verbal skills were assessed. Some of

these variables, such as family demographics, are of interest as antecedents of choice of various cable services. Others, such as child's viewing or television-related talk and play could be both antecedents and consequences of cable subscription. Families of children who are already heavy television viewers may be more apt to choose certain cable services than families where the young children are light viewers. Conversely, the types and variety of programming available on cable may lead to increased viewing by children whose families subscribe, either temporarily as a novelty effect, or as a permanent change in habitual viewing patterns. These questions of causality may be answered with confidence only when appropriate longitudinal data are available.

Method

Subjects

The initial sample consisted of 320 children who were either three or five years old (within three months of their third or fifth birthday), and who lived in Topeka, Kansas. Families were initially identified by newspaper birth announcements, local preschool rosters, and recruiting advertisements placed on bulletin boards in public places. Although it was a volunteer sample, it represented a wide range of parental educational levels and occupational statuses. The average educational level for fathers was a Bachelor's degree, and for mothers was some post-high-school training, but less than a Bachelor's degree. Parental occupations were rated on the Duncan Scale of Occupational Status (Duncan, 1961), which yields a score from 1 to 99. The mean status scores for fathers and mothers, respectively, were 53 and 52. The range was from 5 to 96.

Cable services had been available for three to nine months prior to data collection. Forty-five families' data were excluded from the analyses

because cable services were not available in their neighborhoods. An additional 38 families were excluded due to missing data on one or more of the variables considered. The final sample consisted of 65 five-year-old males, 63 five-year-old females, 66 three-year-old males, and 43 three-year-old females, a total of 237 children. The final sample did not differ from the excluded sample on parents' education or occupational status.

Instruments and Procedures

Each family kept a diary of all television viewing by all family members for one week. Half the families kept their diary in April, 1981, and half in October, 1981. One to three months before the diary was collected one of two female investigators conducted an extensive personal interview with each mother in the home and administered the Revised Peabody Picture Vocabulary Test (PPVT-R) to the child (Dunn & Dunn, 1961).

Questions in the interview covered four domains: (1) television availability in the home, (2) family television regulations, (3) the child's media orientation, and (4) the child's other activities.

The questions assessing television availability included the number of television sets, cable options, and other video equipment, such as videorecorders or videogames.

Questions regarding family television regulations included television regulation (frequency of reported parental restriction of viewing time or programs), television encouragement (frequency of reported parental encouragement of child's viewing of particular programs or at particular times), sexual content regulation (restrictions on child's viewing of programs with nudity or sexual content), and violent content regulation (restrictions on child's viewing of violent programs).

Four variables served to summarize responses to questions on the child's media orientations concerning television, print, and other media. The first, television focus, consisted of a series of ratings by the parent on five-point scales of how much the child enjoyed television and how often the child engaged in play activities using television themes; was involved in conversations about television; asked for explanations of television events; asked about scary things on television; asked for television-advertised products; talked about television commercials; asked if events on television are real; and disagreed with parents about family television rules. Television-related objects was a scale measuring the number of television-related toys, games, books, magazine, clothes, or other objects in the child's possession. Liking print media was the sum of the parent's ratings of the child's enjoyment of books, frequency of library visits, and frequency of using or being read to from books and magazines. Liking other media was defined as the parent's rating of the child's enjoyment of non-print media other than television, such as radio, records, and audiotapes.

The child's other activities included whether or not the child attended preschool or an organized group day-care program, and the mother's ratings of how much the child enjoyed outdoor play, indoor play, and social play (with peers), all on five-point rating scales.

Results

Families were divided into four groups on the basis of the cable services they received: no-cable (N = 86); basic cable (N = 64), one movie channel (N = 70); or two movie channels (N = 17). All families who subscribed to one or more movie channels also received basic cable service. A blockwise discriminant function analysis was conducted to determine the

variables that distinguished among the four television service groups. A total of 25 predictors was entered. Family demographic variables were entered first. They included the education and occupational status of each parent as well as whether or not the mother was employed. Child characteristics were entered next: age group (three or five), gender, and percentile rank on the PPVT-R. At the third step, the amount of television viewed by the child (based on the week-long diary) and the remaining variables from the mother interview were entered.

The rationale for this order of entry was from most clearly antecedent variables to those that were most likely to be at least in part consequences of cable reception. Parent demographics would affect the parents' decision to subscribe to cable, somewhat independently of their child's characteristics. Accordingly they were entered first. The child's characteristics might affect the parents' decision and might also influence the child's viewing in response to the different options provided by different cable services, so they were entered at step two. The child's actual viewing and the remaining interview variables -- television availability, family television regulation, child's media orientations, and child's other activities -- might be both antecedents and consequences of the cable service available, and so were entered last.

Within each of these three categories of predictors, the one with the highest F ratio was entered first. Additional variables were entered according to the magnitudes of their F ratios until none of the remaining variables had F's of 1.0 or greater. In this way suppressor effects could be identified. Then variables with the smallest F-ratios were removed one at a time until the only ones left in the equation were independent contributors to the discriminant function significant at $p < .05$. In Table

1, all variables that entered the discriminant function at $p < .05$ are shown.

Table 1 about here

The overall discriminant function was statistically significant (approximate F (18,645.37) = 3.59, $p < .05$). Pairwise comparisons of the overall discriminant function yielded significant differences between all of the television service groups, except between the basic cable and the one-movie channel families, as shown in Table 2. The function accurately

Table 2 about here

classified 50% of the no-cable families, 39% of the basic cable subscribers, and 59% of the families that subscribed to two movie channels, but only about 16% of the families subscribing to one movie channel.

Father's education was the single best discriminator of television services received. Table 1 shows that paternal education was not a linear predictor of cable subscription options. Fathers in the no-cable families and in the two-movie channel families had less education than basic cable or one-movie channel fathers. Father's occupational status was not a significant zero-order discriminant, but it was significant after the effect of father's education had been taken into account. With education statistically controlled, basic cable fathers had lower occupational status levels than either the no-cable or the two-movie groups. Furthermore, father's education acted to suppress effects of his occupational status on cable subscription. Families with any type of cable service were also more likely to have employed mothers than were families in the no-cable group.

Although there were not age or sex differences among the children of families subscribing to different cable options, there was a significant difference in vocabulary scores on the PPVT-R, as seen in Table 3. Children

Table 3 about here

in two-movie channel families scored significantly lower than children in the other groups. This finding should be interpreted carefully because there were only 17 children in the two-movie group. However the difference is large and consistent across age and gender. Eight of the 17 children had test scores at or below the 30th percentile on national norms.

As expected, the frequency of children's television viewing increased with the number of cable service options available in their homes. This difference was even more pronounced after the demographic characteristics of the family were taken into account. In this data set as in others, parent education was negatively associated with the amount of television children viewed (Huston, Wright, Kerkman, Rice, Seigle, & Bremer, 1983). Yet children in the basic cable and one-movie families watched more television than those without cable, despite the higher average education of their fathers.

The cable service groups were also significantly differentiated by the number of television sets in the home and the presence of other video equipment. Although there were small monotonic increases across all four cable groups, the two-movie families were particularly high on both of these variables. They averaged almost 2.5 televisions sets, and about 40% of them had some additional video equipment such as tape, disc, or projection screen television.

Children's television focus entered the discriminant function at a significant level, but did not remain in the final equation. Again there was a monotonic increase as cable services increased, and again the largest difference occurred for the two-movie channel families.

Discussion

The findings reported here provide some new information about the family attributes that may lead people to choose various television service options, as well as suggestive information about some of the consequences of the increased number and variety of programs offered by those cable services. As expected, the demographic characteristics of the parents play an important role in the decision to get cable and the options selected. The findings suggest that occupational attributes and education contribute to cable subscription for different reasons or in different ways. Family income was related to cable subscription in a fairly direct way: When mothers were employed and the family in most cases therefore had two incomes, they more often subscribed to cable than when the mothers were unemployed. Among those who subscribed, the higher the father's occupational status (and presumably, therefore, his income), the more cable services the family bought. People with high educational levels, however, appeared to be more selective than those with less education in their cable choices, or perhaps less likely to subscribe to every available cable option, even when they had the resources to do so.

The amount of television children watched was considerably greater in families with cable services than in those without. In the absence of a before/after comparison, it is impossible to determine whether this difference is an antecedent or a consequence of cable service. We suspect

it is both. Because reception without cable was poor in many parts of the community, families who did not subscribe were probably those who were relatively uninterested in television. At the same time, on the basis of parent education alone, the children with basic cable and those with one movie channel would have been expected to watch less than those with no cable. Instead they watched considerably more. That is, the availability of cable counteracted the effects of parent education on total amount of viewing.

If we are to understand the uses and impact of cable, it is important to distinguish among different types of cable services. Previous studies may have failed to detect the powerful, nonmonotonic effects of father's education on television service subscription because the greatest differences are between the basic cable and the two-movie groups, not between the no-cable and all the cable groups combined. The findings of the present study demonstrate that while cable subscribers of all kinds differ in some respects from those who choose not to subscribe, there are also important distinctions among groups who subscribe to different options. It was initially expected that families who subscribed to one or more movie channels might differ from those who received basic cable because of the distinctive content of programming on the movie channels. There are fewer limits on adult language, nudity, sexuality, and violence -- all issues of concern to many of the parents. However, the findings indicate few differences between those with basic cable and those with one movie channel.

Instead, the two-movie channel families were distinctly different from all the other groups. Their selection of a second extra-pay channel appeared to be a way of gaining additional quantity of programming, particularly movies, rather than a means of receiving a qualitatively

different kind of programming. In many respects Cinemax offerings are similar to those of HBO. They are called movie channels, but air night club acts, special short subjects, sporting events, and variety programs during a small percentage of their time. The fact that the two-movie channel families also had more television sets and more video equipment than the other groups also suggests that they represent a media-oriented subgroup. The fathers were relatively poorly educated, but had high-status jobs.

Perhaps the most striking attribute of the children in these families was that many of them had very low vocabulary scores for their ages. They also watched a large amount of television, and their their play and conversation were highly focussed on television topics and characters. Although the availability of extensive viewing options may have contributed to these child attributes, it is also likely that the lower verbal ability indicated by their low vocabulary scores preceded the introduction of cable services into their homes. Nevertheless the high level of involvement with television that characterized their families apparently did not contribute to optimal intellectual development. If there is such a syndrome as television addiction, as some writers have argued (e.g., Winn, 1977), a pattern that puts children at some risk for cognitive, educational, social, and emotional development, then these are the families in which one would expect that pattern to appear. Maximum cable subscription is a symptom more than a cause of that pattern. As video media proliferate and new viewing options arise, that symptom will bear watching.

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Table 1. Group means for variables that discriminated the television service groups.[a]

Variable	No Cable Group	Basic Cable	One Movie Channel	Two Movie Channels	Step 0 F(2,233)	Step 28 F(3,227)
Father Education[b]	3.72	4.28	4.07	3.24	3.85*	6.56*
Father Occupation[c]	55.21 (57.54)	53.59 (49.99)	56.59 (55.20)	56.88 (64.35)	0.20	2.94*
Mother Employed[d]	1.66 (1.62)	1.97 (1.98)	1.87 (1.90)	1.88 (1.94)	2.15	2.97*
PPVT Percentile	63.92 (64.24)	65.64 (65.51)	65.93 (65.48)	45.41 (46.08)	3.73*	2.76*
Number of TV Sets	1.60 (1.59)	1.75 (1.79)	1.83 (1.84)	2.41 (2.30)	5.72*	4.90*
Other Video Eqpmt.[e]	0.12 (0.12)	0.22 (0.22)	0.21 (0.18)	0.41 (0.39)	3.12*	1.39
Child's TV Focus	38.65 (38.86)	40.67 (40.96)	41.96 (41.82)	44.29 (44.44)	3.57*	2.57
Child's TV Viewing[f]	17.36 (17.04)	20.32 (20.72)	21.71 (22.00)	22.30 (21.17)	2.49	3.66*
Number of cases	86	64	70	17	Total N = 237	

Notes: a. Means in parentheses for each predictor variable are adjusted means calculated by covarying all the predictors that had entered the stepwise equation at previous steps.

b. 1 = less than high school; 2 = high school graduate; 3 = some post high school training; 4 = Bachelor's degree; 5 = some post-graduate work; 6 = graduate degree.

c. Duncan's (1961) index. Range = 01 - 99.

d. Mother employment was scored: unemployed = 0; part time = 1; full time = 2.

e. Number of units of other video equipment in the home.

f. Child's TV viewing is measured in hours per week.

* $p < .05$

Table 2. Accuracy of the final discriminant function in classifying families

TV Services	% Correctly Classified	F Matrix for pairwise discriminations (df = 6, 228)		
		No Cable	Basic Cable	One Movie
No Cable	50.0			
Basic Cable	39.1	4.51*		
One Movie Channel	15.7	3.56*	0.70	
Two Movie Channels	58.8	4.96*	5.16*	3.85*
Overall	37.6	$F(18,645) = 3.59$*		

Note: * $p < .05$.

Table 3. Mean Peabody Picture Vocabulary Test percentile scores of preschoolers according to cable service in their homes.

Age	Gender	Type of Cable Service: No Cable Group	Basic Cable	One Movie Channel	Two Movie Channels
3	Male	66.0	62.4	64.0	43.8
3	Female	71.3	60.4	71.4	56.2
5	Male	53.1	73.8	61.8	19.7
5	Female	63.0	63.1	66.0	43.8